

WHAT IS CLAIMED IS:

1. A method for inhibiting the spread and/or reducing the risk of infection of a virus comprising contacting a virus with an inhibiting effective amount of a cathelicidin functional fragment.
2. The method of claim 1, wherein the cathelicidin functional fragment comprises a peptide that is 16-36 amino acids in length; and contains the sequence $\text{NH}_2\text{-X}_1\text{X}_2\text{X}_3\text{X}_4\text{X}_5\text{X}_6\text{IKX}_7\text{FX}_8\text{X}_9\text{X}_{10}\text{LX}_{11}\text{P-COOH}$ (SEQ ID NO:1), wherein X_1 , X_2 , and X_6 are individually K or R; wherein X_3 is I or K; wherein X_4 is V or G; wherein X_5 is Q or R; wherein X_7 , X_9 , X_{10} , and X_{11} are each individually any amino acid; wherein X_8 is L or F and wherein the polypeptide comprises antimicrobial and/or antiviral activity.
3. The method of claim 2, wherein the peptide is about 16 to 20 amino acids in length.
4. The method of claim 3, wherein the peptide comprises a sequence selected from the group consisting of:
 - (a) $\text{NH}_2\text{-KRIVQRIKDFLRNLVP-COOH}$ (SEQ ID NO:13);
 - (b) $\text{NH}_2\text{-KRIVQRIKDFLRNLVPR-COOH}$ (SEQ ID NO:14);
 - (c) $\text{NH}_2\text{-KRIVQRIKDFLRNLVPRT-COOH}$ (SEQ ID NO:15);
 - (d) $\text{NH}_2\text{-KRIVQRIKDFLRNLVP RTE-COOH}$ (SEQ ID NO:16); and
 - (e) $\text{NH}_2\text{-KRIVQRIKDFLRNLVPRTES-COOH}$ (SEQ ID NO:17).
5. The method of claim 3, wherein the polypeptide is about 26 to 30 amino acids in length.
6. The method of claim 5, wherein the peptide comprises a sequence selected from the group consisting of:
 - (a) $\text{NH}_2\text{-KSKEKIGKEFKRIVQRIKDFLRNLVP-COOH}$ (SEQ ID NO:18);
 - (b) $\text{NH}_2\text{-KSKEKIGKEFKRIVQRIKDFLRNLVPR-COOH}$ (SEQ ID NO:19);
 - (c) $\text{NH}_2\text{-KSKEKIGKEFKRIVQRIKDFLRNLVPRT-COOH}$ (SEQ ID NO:20);

- (d) NH_2 -KSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:21); and
- (e) NH_2 -KSKEKIGKEFKRIVQRIKDFLRNLVP RTE S-COOH (SEQ ID NO:22).

7. The method of claim 2, wherein the peptide is about 27 to 31 amino acids in length.

8. The method of claim 7, wherein the peptide comprises a sequence selected from the group consisting of:

- (a) NH_2 -RKSKEKIGKEFKRIVQRIKDFLRNLVP-COOH (SEQ ID NO:23);
- (b) NH_2 -RKSKEKIGKEFKRIVQRIKDFLRNLVP R-COOH (SEQ ID NO:24);
- (c) NH_2 -RKSKEKIGKEFKRIVQRIKDFLRNLVP RT-COOH (SEQ ID NO:25);
- (d) NH_2 -RKSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:26);
- (e) NH_2 -RKSKEKIGKEFKRIVQRIKDFLRNLVP RTE S-COOH (SEQ ID NO:27).

9. The method of claim 2, wherein the peptide is 36 amino acids in length.

10. The method of claim 9, wherein the peptide consists of the sequence NH_2 -LG DFFRKSKEKIGKEFKRIVQRIKDFLRNLVP RTE S-COOH (SEQ ID NO:28).

11. The method of claim 1, wherein the virus is selected from a pox virus, a herpes virus, vaccinia virus, and papilloma virus.

12. The method of claim 1, wherein the contacting is *in vivo*.

13. The method of claim 12, wherein the contacting *in vivo* is by topical administration.

14. A method of treating atopic dermatitis comprising contacting a subject having or suspected of having atopic dermatitis with an inhibiting effective amount of a cathelicidin functional fragment.

15. The method of claim 14, wherein the cathelicidin functional fragment comprises a peptide that is 16-36 amino acids in length; and contains the sequence NH₂-X₁X₂X₃X₄X₅X₆IKX₇FX₈X₉X₁₀LX₁₁P-COOH (SEQ ID NO:1), wherein X₁, X₂, and X₆ are individually K or R; wherein X₃ is I or K; wherein X₄ is V or G; wherein X₅ is Q or R; wherein X₇, X₉, X₁₀, and X₁₁ are each individually any amino acid; wherein X₈ is L or F and wherein the polypeptide comprises antimicrobial and/or antiviral activity.

16. The method of claim 15, wherein the peptide is about 16 to 20 amino acids in length.

17. The method of claim 16, wherein the peptide comprises a sequence selected from the group consisting of:

- (a) NH₂-KRIVQRIKDFLRNLVP-COOH (SEQ ID NO:13);
- (b) NH₂-KRIVQRIKDFLRNLVPR-COOH (SEQ ID NO:14);
- (c) NH₂-KRIVQRIKDFLRNLVPRT-COOH (SEQ ID NO:15);
- (d) NH₂-KRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:16); and
- (e) NH₂-KRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:17).

18. The method of claim 15, wherein the polypeptide is about 26 to 30 amino acids in length.

19. The method of claim 18, wherein the peptide comprises a sequence selected from the group consisting of:

- (a) NH₂-KSKEKIGKEFKRIVQRIKDFLRNLVP-COOH (SEQ ID NO:18);
- (b) NH₂-KSKEKIGKEFKRIVQRIKDFLRNLVPR-COOH (SEQ ID NO:19);
- (c) NH₂-KSKEKIGKEFKRIVQRIKDFLRNLVPRT-COOH (SEQ ID NO:20);
- (d) NH₂-KSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:21); and

(e) NH₂-KSKEKIGKEFKRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:22).

20. The method of claim 15, wherein the peptide is about 27 to 31 amino acids in length.

21. The method of claim 20, wherein the peptide comprises a sequence selected from the group consisting of:

- (a) NH₂-RKSKEKIGKEFKRIVQRIKDFLRNLVP-COOH (SEQ ID NO:23);
- (b) NH₂-RKSKEKIGKEFKRIVQRIKDFLRNLVPR-COOH (SEQ ID NO:24);
- (c) NH₂-RKSKEKIGKEFKRIVQRIKDFLRNLVPRT-COOH (SEQ ID NO:25);
- (d) NH₂-RKSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:26);
- (e) NH₂-RKSKEKIGKEFKRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:27).

22. The method of claim 15, wherein the peptide is 36 amino acids in length.

23. The method of claim 22, wherein the peptide consists of the sequence NH₂-LGDFFRKSKEKIGKEFKRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:28).

24. The method of claim 14, wherein the virus is selected from a pox virus, a herpes virus, vaccinia virus, and papilloma virus.

25. The method of claim 14, wherein the contacting is *in vivo*.

26. The method of claim 25, wherein the contacting *in vivo* is by topical administration.